

MODE CONTROLLER FOR SIGNAL ACQUISITION AND TRACKING  
IN AN ULTRA WIDEBAND COMMUNICATION SYSTEM

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ABSTRACT OF THE DISCLOSURE

A system and method for controlling the mode of operation in a UWB receiver. In one variation, the system and method determines the mode of operation by reading a set number of samples of the signal, estimating mode parameters, calculating a mode probability, and then transitioning in a finite state machine from either a tracking to an acquisition state or vice versa depending on the value of the mode probability. Exemplary versions of the mode controller include a signal to noise ratio calculator, a signal and noise power estimator, and an AGC initialization circuit.

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